THE ZOOLOGIST

No. 867.—September 15th, 1913.

NOTES ON THE ORNITHOLOGY OF OXFORDSHIRE, 1910–1912.

By O. V. Aplin, F.L.S.

1910.

January 3rd.—Mild weather; Mistle-Thrush, Song-Thrushes, Hedge-Sparrow, Wren, and Starling sing, and Wood-Pigeons "coo." A Jay seen in my shrubbery.

6th.—A great many Bullfinches about hedges this winter, and they are now continually about my garden.

7th.—I counted to-day fifteen Pied Wagtails close together following the plough just outside the village; there were a few more not far off, perhaps twenty altogether, in the field, and one Meadow-Pipit. A single Wagtail, or at most a pair, is all we expect to see in winter. These birds must have wintered not far away, contrary to their usual custom, for it is too early for an oversea migration, or even for one from the South of England. News from Mr. Fowler of a Crossbill shot from a small flock on the 1st inst.

10th.—Bullfinches reported from Kingham in great numbers, and at the beginning of the month Wood-Pigeons were reported to have been seen in great numbers in the district round Shipton-under-Wychwood for some weeks. Blackbird singing.

12th.—Heavy fall of snow. A "wisp" of half a dozen Snipe in flooded meadow at Barford.

14th.—Mild. Two Larks singing, the first this year. There have been fair numbers of Fieldfares all the winter, and many early in the season.

A mild month, but frosts towards the end. Less than two inches of rain on seventeen days; wind S.W.; temperature over freezing on twenty days.

February 5th.—A good many Thrushes have returned.

6th.—Pied Wagtail sang. Blackbird with rattling breeding note.

12th.—Chaffinch singing.

20th. — Most violent February storm ever known here. Thunderstorm, hurricane, torrents of rain, and very big hail.

21st.—Rooks building the last few days.

26th.—Several Yellowhammers singing.

A mild month, twenty-seven days over freezing; $3\frac{3}{4}$ in. of rain on twenty-five days; S.W. The valleys more or less flooded last two months.

March 2nd.—Bullfinches numerous and destructive lately.

6th.—A Nuthatch at the back of the house, the first seen here this winter. I heard two at Wroxton on 5th.

26th.—News from Mr. Fowler of Crossbills still at Cornwell, and possibly nesting. Also of a Spotted Woodpecker seen by him in Churchill Heath Wood on the 25th, where he had not seen one since 1888. Wryneck in Hanwell Park.

29th.—A Peregrine here. Nuthatch at Bloxham Grove.

30th.—Three Herring-Gulls flew over very low down, going N.E.; perhaps brought down by the calls of my neighbour's pinioned Gulls. Chaffinch's nest with one egg—very early.

April 2nd.—Four or five Redshanks reported at Kingham by Mr. Fowler. They did not stay.

12th.—This evening a Barn-Owl flew over the garden with something in its claws, including a long straw, no doubt snatched up with a mouse!

27th. — Several Goldfinches seen lately, probably recent arrivals. A pair in my orchard.

28th.—Examined a very fine adult female Dotterel shot from a "trip" of five at Sibford on the 23rd.

May 3rd.—Visited the heronry at Old Paddock, near Thame, but I found that most of the trees in the grove of fine oaks where they bred had been felled just when the birds were nesting last year, and the Herons have deserted the place. This is a great loss to the county. This spot is in what was once Rycote Park,

where there was once a fine mansion, and deer within the memory of a former correspondent of mine. Rycote Pool is close by, and it was a grand place for a heronry. A man who had lived close to the wood for many years told me he had counted as many as thirty birds. There were several pairs of Coots on the Pool, as well as Dabchicks, Duck, and Moorhens. Several Nightingales.

4th.—Nuthatch at Thame Park.

7th.—A Wild Duck rose from her nest on an island in a small pond near the village, and a long way from any brook. A Blackbird's nest quite ten feet up in a huge hawthorn hedge. The bird refused to come off for some time, feeling herself and nest quite safe.

10th.—A Gull passing N.E. yesterday, and three seen a week ago; rather stormy weather.

16th.—Signs of Long-eared Owls in Claydon Hill Wood.

21st.—Great thunderstorm and a deluge of rain.

25th.—Cinnabar moth appeared.

31st.—Young Starlings in small flocks.

June 2nd.—Wood-Wren in Churchill Heath Wood. Mr. Calvert told me he found a Grey Wagtail's nest in the stonework of the lasher at Ascott-under-Wychwood Mill, with eggs, on April 15th, and another nest of young near there in May. He subsequently informed me by letter that the young were nearly fit to fly at the time of the flood (June 7th and 8th), and he feared they were washed out of the nest, as the river rose in the middle of the night. He thinks the birds laid a third time, as he used to see a brood about there when he was fishing at the end of August.

3rd.—More Nightingales in the district this year than usual. A female Red-backed Shrike. Goldfinches rather common.

7th.—Great storms of thunder and rain and heavy floods about this time. I was away from home.

15th.—Heard a Corn-Crake between here and the Grove, from the house. About 10.30 p.m. Golden Plovers were passing N., calling loudly.

19th.—A Wren's nest which was being built on March 27th, and was, I thought, deserted, was found to contain eggs a day or two ago.

27th.—Barred Woodpecker noisy in elm tree, and I think has young out; a brood reported in an orchard at Tadmarton this spring.

July 13th.—The Corn-Crake I heard was seen when the field (clover) was cut a day or two ago. No nest was found, but the young may have been hatched.

16th.—A Peewit mobbed me as if it had small young. These birds often get their eggs destroyed twice or more times (when obstinately trying to breed in some field) by agricultural work. Perhaps they finally hatch a very late brood.

25th.—Common Sandpiper by the canal at Bodicote; the hounds killed an Otter at King's Sutton.

August 21st.—Swifts, I think, still here in full strength, flying round and screaming loudly. Some young on the wing on 16th. Though we have more Swifts than last year, there are not many, perhaps not half our average number. A cold summer. The bulk of them must have left the next morning. Stray birds seen until the 25th.

September 3rd.—Counted up to one hundred and twenty-seven Martins on my roof this morning, but there were more; some were often moving, and I think some had flown away earlier. Three Land-Rails shot to-day out of standing barley. A few Meadow-Pipits in roots; this is very early for this migration.

10th.—One Land-Rail.

12th.—A few Pipits.

30th.—Chiffchaff singing.

October 1st.—Many Meadow-Pipits.

10th.—A Cormorant—small and probably a Shag—flew over the garden this morning low down, going N.

19th.—News of a pair of Hobbies shot and nestling taken at Wytham (on the Berks side of the river) this year, and an adult male shot at Glympton this summer. Woodcock shot on or before 17th.

22nd.—Redwings. 24th.—Fieldfares.

November 8th.—A few days ago a Little Owl flushed from a hedgebank at Horley.

15th.—A great many Wood-Pigeons about here now.

Nearly four inches of rain in November, and nearly six in December, and great floods.

December 23rd.—A few Bramblings with small birds near some beech trees. Very few Fieldfares and Redwings this autumn; there are no haws.

1911.

January 6th.—A Hawfinch in my garden.

14th.—A few scattered Bramblings about. Weather frosty lately. About 4.30 p.m. I saw a Great Tit perched on a lump of fat which hangs on a string in front of one of the windows, fast asleep, with his head "under his wing"—other birds had gone to roost. I went out and caught him. He seemed drowsy but quite well, and probably was so full of fat that he went to sleep at the table!

February 25th.—A female Goldcrest has been here yesterday and to-day picking up small bread-crumbs.

March 27th.—Our one pair of Nuthatches continue with us and I hope will breed.

April 1st.—A pair of Hawfinches in the kitchen garden. Bullfinches now most destructive to primroses; they bite off the flowers for the sake of the green seeds in the nectaries.

3rd.—Goldcrests which have been noticeably abundant all the latter end of the winter are still about here. Jays, too, have been unusually common.

10th.—A fine male Hawfinch in holly tree by study window. They always come into the village when the crop of haws fails, as it did last autumn. Many were seen in a plum orchard at Milcomb in the latter part of the winter.

13th.—News of a cream-coloured Snipe shot in Milcomb gorse at the end of February. It was badly shot, forgotten, and then thrown away! Water-Rails have been seen lately about the small pond near the railway station.

27th.—Examined Little Owl shot at Barford about the middle of the month, a small warmly coloured Buzzard shot at Somerton on March 11th, and a male Ring-Ouzel shot at Westbury, Bucks, early in April.

May 6th.—Two Nightingales near the village this year.

15th.—A male Red-backed Shrike here. The leaves came out so early this year that it is now very difficult to see young Rooks. An adult Redshank, which I afterwards saw, was shot

this month at Slat Mill, near Cropredy. This looks as if the breeding birds were pushing up the Cherwell Valley.

June 2nd.—Mistle-Thrush still in song.

July 11th.—Saw a Reed-Warbler in the Cherwell just above King's Sutton. Also saw an *old* Cuckoo, though I had not heard one for several days before June 25th. Rooks have been very destructive this dry season, and I was told to-day of one and a half acres of peas completely destroyed by them and Jackdaws.

15th.—A boy brought me a deserted nest and four eggs of a Nightingale, taken close to where I had seen a bird in May. The yolks of the eggs were only curdled, and, considering the very hot dry weather, the eggs could not have been laid long.

21st.—Wheat ripe; oats cut, and pasture fields quite brown.

24th.—Martins congregating on the roof. Song-Thrushes have deserted the garden; a pair which have young in front of the house are, my man says, feeding them on green cabbage caterpillars.

August 9th.—Said to be the hottest day ever known in England; here only 90°. Swifts enjoyed it, but the Greenfinch was the only bird in the garden that could sing. All the Swifts here this evening, but only one seen afterwards.

12th.—A young Red-backed Shrike.

14th.—A Gull (probably immature Herring) flew over, N.E.

19th.—Harvest finished.

September 1st.—About one hundred Martins on roof, 8.30 a.m. They have been more numerous than usual this year, a good many having arrived after the middle of May.

5th.—Over one hundred Martins on roof.

6th.—Shot a white horseshoed Partridge—a female of last year. About one hundred and twenty Martins on roof.

7th.—Small Copper Butterflies very abundant now. I saw five close together in my garden even.

8th.—About half a dozen Meadow-Pipits in roots; 84° in shade.

26th.—One field of roots pretty full of Pipits, despite the smell of the mildewed and rotting plants; few in others. Two little "charms" of Goldfinches.

29th.—Nearly all the Swallows and Martins gone; the last gathering on the roof of the latter was on 23rd. The great

drought, which lasted above five months and ended with this month, was most destructive to vegetation, some trees and shrubs dying. The ground had cracks into which a man could put his foot, and two feet deep. In the five months, May to September, only just over five and a half inches of rain fell at Banbury, and still less at some places round there.

October 10th.—Swallows and Martins appear to have gone; one of the latter here to-day, none the last two days.

11th.—Wild Geese reported flying over.

12th.—One Swallow.

14th.—Redwings.

27th.—Fieldfares.

November 8th.—Little Owl shot at Horley in mistake for a Woodcock, from the same spot in a fence where one was flushed within a day or two of this date last year. Expanse of wings, 21¼ in.; weight nearly 7 oz.

12th.—Blackbird singing a little in low tone.

30th.—At 3.5 p.m. flock of about one hundred and fifty Fieldfares flew over, followed in five or ten minutes by a big flock estimated at four or five hundred; going S.E. Air still, south, dull and cloudy. Very few (and of Redwings also) about here since they came, the crops of haws being small and irregular.

December 19th.—A Lark sang.

20th.—Winter aconite flowering.

Year closed with the still, dark, dry weather White speaks of. Wren, Song- and Mistle-Thrushes, Robin, Hedge-Sparrow, Starling, and Great and Coal Tits singing.

1912.

January 1st.—A great deal of bird song, and a Blackbird sang.

13th.—For the first time this season I noticed a few Bramblings about the fields. No beech-mast last autumn, but a record crop of acorns.

27th.—Saw a Short-eared Owl in a tall tree near Banbury, into which it had been driven. It was alarmed, and its little ears could be clearly seen against the sky.

29th.—Two small Swans flew over the garden low down; adult. I caught sight of a flash of yellow on their beaks. Severe weather lately.

31st.—Scarlet Grosbeak seen at Adderbury (*vide* Zool. 1912, p. 460).

February.—Our pair of tame Nuthatches disappeared in the severe weather, and I may add we had none here all the rest of the year.

March 1st.—A Wren's nest finished externally.

7th.—Migratory Meadow-Pipits in Cherwell Valley, pushing up the valley over the floods. Examined a fine adult Sclavonian Grebe shot at Wroxton recently.

28th.—Some Goldfinches have arrived: an early appearance for these migratory birds.

April 10th.—Magpie's nest with three eggs, which is early.

12th.—Crow's nest with five eggs.

15th.—A flock of fifty to one hundred Fieldfares passed E. this morning, high up and noisy.

17th.—More passed, and some remained here.

19th.—Young Song-Thrushes on the wing.

20th.—Grey Wagtail's nest with five eggs found at a mill-lasher on the Evenlode.

28th.—The spring drought which has lasted over a month seems to have checked the nesting of some birds. A Mistle-Thrush now sitting low down in the main fork of a plum tree, and very tame, became very bold after the young were hatched, dashing within a yard of our heads, and perching with loud croaks not two yards away. The nest is fairly well hidden.

May 6th.—Shot Rooks; unusually early, but the leaves already out so much that it was difficult to see the birds in some trees.

One Nightingale here (on the Grove), and one near Crouch Hill. Crows seem to be laying full sets of five this year; in some years four is the usual number. Seven sets of five have been brought in, and no completed set of less, unless two eggs three-quarters sat upon, small abnormal eggs, could be called so.

17th.—For the third time this season a pair of Peewits have laid their eggs in a small field, and lost them through agricultural operations.

21st.—At Upper Heyford, in an old disused lock-garden,

where there is a good growth of reeds, I found a little colony of Reed-Warblers. I heard three birds singing, and saw a completed nest. This bird is rare on the Cherwell, sporadic in distribution, and apt to be found one year in a place and not the next. A pair of Tree-Sparrows breeding in a girder-bridge carrying the railway over the canal near there. I am told that twenty-six dozen young Rooks were killed at North Aston Rook-shooting.

June 2nd.—A pair of Flycatchers (for which a careful look-out has been kept) appeared in the garden on the 29th ult. To-day the nest was finished and the first egg laid. A Blackbird's nest, of which there was no sign on the 30th ult., is finished to-day. All the building must have been done in the very early hours of these long days, for the nest is in a rose-arch crossing a most frequented path.

11th.—Mr. Fowler showed me nest of Stonechat in bank by roadside near Kingham Station. This pair of birds had a brood in April.

July 14th.—Heard a Quail calling about 9 p.m.

27th.—A "Holly Blue" butterfly in the garden.

The latter end of this month was very wet.

August 10th.—Received from Mr. Fowler an adult female Wood-Sandpiper, shot from a flock of about eight in a flooded meadow in the Evenlode Valley at Kingham on the 3rd inst. Although stale, it weighed $2\frac{3}{4}$ oz. Both Green and Common Sandpipers were noticed there about the same time, and one of the former was shot. This is the first time the Wood-Sandpiper has been proved to occur in Oxon so far as I am aware. Mr. Fowler also sent me word that the pair of Stonechats had built another nest, and probably reared young, by the roadside in his absence. Examined a male adult Hobby shot at Tusmore on the 9th inst. A Hobby was shot at Bletchingdon early in June in the act of snatching up a Sparrow feeding on the food at the Pheasant-coops.

The following notes on the Swifts in this cold and very wet month may be worth recording:—

9th.—Our full lot and rather noisy at evening; some young out, and for some days early this month. But I think the old birds have reared few this year on account of the cold and wet

late summer. 10th. Could only see three together. 11th. Two. 12th. None. 13th. Two and one young one (55°). 16th. Two. 18th. Numbers. Since the 9th I could not see more than three together, and on some cold, wet days none at all. I think they stay in their holes in such wet, cold weather as we have had, or only come out for a short time in the day. I almost always go to observe them about 6 or 7 p.m. To-night—a nice and warmer evening—up to 7 p.m. the whole colony seemed to be out, and some young with them. I should think there were over forty in the air, and they screamed a little. They have hardly screamed at all this summer, and I had not heard them since the 9th. 19th. Some; screamed. 22nd. Eight or ten. 24th. About a score, and quite noisy in the sunny evening; some young out. 25th. About a dozen. 29th. Two, and young.

24th.—Whimbrel heard passing west about 8 p.m.

28th.—Walked on the tow-path from Lower Heyford, along the Cherwell Valley to Aynho Station. The valley seemed one long lake. Machines of all kinds and haycocks peeped out of the water at intervals. There were hundreds, perhaps thousands, of Peewits along the flood-edge. Some Ducks and Herons and a Common Sandpiper were seen, though it was impossible to search for small waders. I also saw a Wheatear.

30th.—A "Holly Blue."

September 5th. — News of a Golden Plover at Roilright yesterday.

6th.—Two Land-Rails flushed out of oats being cut.

7th.—A Red-backed Shrike seen. A very few Meadow-Pipits in roots; none on 2nd. Another Land-Rail.

9th.—Two Land-Rails. A good many Pipits—about a hundred in one bit of roots.

10th.—A good many Martins and some Swallows already gone.

19th.—Some meadows from which the floods has at last run off are covered with mud; on one of them near King's Sutton were hundreds of Peewits, with Rooks and a few Crows.

21st.—Saw a male Ring-Ouzel between here and Milton.

24th.—At the junction of the Sorbrook and Cherwell near Adderbury a great number of Peewits were feeding in two meadows. I counted parts of the flocks, and think there

could not be less than 1750. Some Snipes and Herons about there.

26th.—Swallows and Martins seem to be quite gone. Wagtails passing over.

This fine month is drying the country up. About ten inches of rain fell in July and August.

October 1st.—Four or five Martins flying about the house.

3rd.—Many Pipits about the Milcomb hills.

4th.—One Martin. Sharp white frost.

5th.—Twelve or fifteen Martins, doubtless on passage, stayed all the afternoon.

6th.—Some half-dozen.

7th.—Long-eared Owl hooting gently from spinney at South Newington Hill in the afternoon.

9th.—News from Mr. Fowler that he saw a Grey Crow at Kingham (the first he ever saw there) on the 8th.

10th.—Three Martins.

11th.—Lot of Pipits. When lunching at a cattle-hovel between Milton and Coombe Hill to-day, we found a Little Owl quite lively in the sun.

17th.—Saw a Little Owl at South Newington Hill. I think they move about this month and early in the next.

21st.—A Woodcock near South Newington.

25th.—A single Golden Plover flew over, calling. Fieldfares.

26th.—Cold and wet as it was, Larks sang well, showing that their autumn song does not depend on fine weather. Yet it takes a *very* fine, warm, sunny day to produce a song in winter after the autumn song is over.

November 1st.—Redwings.

18th.—Grey Crow reported at Milton.

19th. — Winter aconite flowering, the first I ever saw in November. The Thrush tribe here in abundance, enjoying the soft weather and abundant haws. Dark variety of Red-legged Partridge at Hook Norton (*vide* Zool. 1913, p. 276).

21st. — Examined an immature Sheld-drake shot on the floods near the mouth of the Sorbrook about the end of August. Also a Hobby, a bird of the year (and said to be a female), shot between Barford and Newington on September 17th.

23rd.—Lark still sings.

24th.—Most of the migratory Thrush tribe have gone on, leaving us our winter stock of Thrushes and Blackbirds.

December 10th.—Three Woodcocks reported as seen in Milcomb bushes; there are more than usual this season.

15th.—Put up a Partridge in my orchard garden in the middle of the village (Sunday).

20th.—Lots of Fieldfares again, in flocks, but no Redwings noticed. Heard of two Quails shot at Wroxton in September.

22nd.—No fewer than thirty-three plants in bloom in the garden. Notwithstanding nice mild days since the Larks were stopped by cold days, they have not sung since November 23rd.

23rd. — Many Fieldfares passed over in straggling flocks, going S. and E.

28th.—The beaters saw a "milk-white" Lark at Milton. A good many Fieldfares, but no Redwings, strange to say.

ASIATIC SKY-LARK ON MIGRATION OBTAINED AT THE TUSKAR ROCK LIGHT-STATION.

By Prof. C. J. Patten, M.A., M.D., Sc.D.

In the 'Irish Naturalist,' March, 1912, vol. xxi. pp. 49–51, I mentioned that I obtained a strange species of Sky-Lark, then unknown to Ireland. From the first I surmised that it was a different species from our Common Sky-Lark, and not merely a light variety of the latter. I felt convinced that it was either the Southern (Mediterranean) or the Eastern (Asiatic) Sky-Lark, and, for reasons which I shall give presently, provisionally designated it the former. Before, however, touching on this point, I shall briefly indicate the circumstances under which it was procured, for, excepting the date of its capture, I have recorded nothing in my previous communication. On Thursday, October 5th, 1911, at 11 a.m., having spent more than two hours searching for dead or wounded birds amid the rock-crevices, I went out on the roof of the dwelling-house of Tuskar Light-Station, and there found two Sky-Larks. From the shrunken conditions of the eyes, and from other *post-mortem* features unnecessary to detail here, it was evident that the birds had been dead a few days, and inasmuch as no birds, save one Blackbird, were seen at the lantern since October 1st—the weather conditions being unfavourable for alluring migrants to the rays—it is well-nigh certain that these two Larks met their fate on the night of October 1st, probably by striking the lantern-glass, at the same time that great numbers of other Larks, as well as Blackbirds, Song-Thrushes, Starlings, Wheatears, Goldcrests, Redstarts (and probably several other species not identified), held up by adverse weather, gathered round the lantern, soon forming a huge fraternity. Larks were most numerous: numbers killed themselves outright either by striking the glass, the balcony-rails, or other part of the lantern framework. I picked up thirty-nine specimens, which afforded me most useful material in making comparisons. Thrushes, Blackbirds, Starlings, and Goldcrests appeared also in considerable numbers,

and several specimens were obtained. Though many Wheatears appeared in the rays, very few came into actual contact with the glass; most of them, allured by the light, disappeared by ascending over the dome of the lantern. I picked up only one specimen. Probably several Redstarts were in the same assemblage, but I identified only one beyond a doubt. None of the above-named species appeared near the lantern until about 11.15 p.m.—that is to say, just as the sky became well overcast, and the wind dropped from a moderate to a gentle breeze. The direction of the wind throughout the night was west, and drizzling rain began to fall at 1 a.m.: such was the state of the weather till dawn. The birds continued to fly round the lantern until the first indication of daybreak appeared in the east. Having carefully compared the strange Lark with thirty-nine Common Sky-Larks, I measured, weighed, and skinned them all without delay. I left the Tuskar Light-Station on Saturday, October 7th, 1911, and visited Mr. Ussher at Dungarvan. On examining the bird he seemed definite in his opinion that it was other than a Common Sky-Lark. On October 17th, 1911, we re-examined the bird at the British Museum in the presence of other ornithologists. The general opinion was that the bird was either the Mediterranean or Asiatic form. Personally I thought it resembled the Mediterranean form, and so provisionally called it *Alauda cantarella*. In the ensuing March, *i. e.* 1912, I published a paper in the 'Irish Naturalist,'* recording the occurrence of this specimen. Two criticisms followed regarding the validity of the species. One appeared in the next issue (April) of the 'Irish Naturalist,' written by Mr. Barrington, who stated that he "should hesitate to include this form [that is, the Mediterranean Sky-Lark] in the Irish List, as it [my bird] may be only a pale specimen of the Common Sky-Lark."† With such a suggestion I could not agree, especially as there were other distinctive characters besides shades of plumage, which strongly suggested that the bird was not a Common Sky-Lark. In a subsequent issue of the 'Irish Naturalist'‡ I replied to my critic in regard to these points.

* *Vide* 'Irish Naturalist,' vol. xxi. March, 1912, p. 50.

† *Ibid.*, vol. xxi. April, 1912, p. 84.

‡ *Ibid.*, vol. xxi. August, 1912, p. 156.

The second comment appeared in 'British Birds' a month later.* The writer, Mr. Witherby, said: "It would seem more likely that the Sky-Lark is an example of *A. a. cinerea*, the Eastern form, which has been taken at Fair Isle† [February 24th, 1906], than the very similar South European form, *A. a. cantarella*." I take it that as Mr. Witherby had not seen my specimen before he wrote, it was mainly because the Eastern form had already been recorded from the British Isles he favoured the view that my bird was another example of the same species which had pursued a westward route. On June 9th, 1912, I showed him the bird, and he expressed the opinion that if compared with a good series of skins the bird would probably turn out to be a genuine example of *A. a. cinerea*. On November 8th, 1912, Mr. Eagle Clarke examined the specimen, and pronounced it to be a strange species. Careful comparison was made with all the specimens in the Royal Scottish Museum, and before finally deciding that it was *A. a. cinerea* Mr. Eagle Clarke proposed to take the bird to Tring Museum, in order there to compare it with the unrivalled wealth of appropriate material. On January 23rd, 1913, the bird was taken to Tring, and after an exhaustive examination, most kindly conducted by Dr. Hartert and Mr. Clarke, my bird was most nearly matched by the Asiatic Sky-Lark. Since obtaining this bird I have been interested to learn that Mr. Barrington has brought to light from his collection a specimen of *A. a. cinerea*, which was killed striking at the Old Head of Kinsale, Co. Cork, on October 7th, 1910, and which had remained unidentified for more than two years.‡ These two Irish specimens, captured as they were in the consecutive seasons of 1910 and 1911, and almost at the same time in October, are highly interesting. But until further data are forthcoming we are hardly in a position even to suggest that the Siberian Sky-Lark, as a rule, spreads far westward over Europe during its autumn migration. For the only other British and, at the same time, European specimen is that taken at the lantern of the Flannan

* *Vide* 'British Birds,' vol. v. May, 1912, p. 240, in note on "Reed-Warblers in Ireland."

† Fair Isle appears to be a mistake; it should read Flannan Isles.

‡ *Vide* "Siberian Sky-Lark in Co. Cork," 'Irish Naturalist,' vol. xxii. January, 1913, p. 20; also *vide* "Eastern Sky-Lark in Ireland," 'British Birds,' vol. vi. January, 1913, p. 254.

Islands Lighthouse on February 24th, 1906.* Concerning this bird, Mr. Eagle Clarke writes:—"This form was described by Ehmcke in the 'Journ. für Ornithologie' in 1903 (p. 149) as *Alauda cinerea*, and is the *Alauda arvensis cinerea* of Dr. Hartert's 'Vogel der Palaarktischen Fauna' (p. 247). This capture well illustrates the advantage that accrues from a knowledge of racial forms, since it enables us to determine the areas whence came this remarkable grey Sky-Lark to our shores. It has not hitherto been detected in Europe, except in the far east, but according to Dr. Hartert it has its home in Western Siberia, Turkestan, Persia, and possibly in Palestine, and in winter is found on the northern side of the Caucasus, Egypt, Tunis, and Algeria."

The following particulars relate to the Asiatic Sky-Lark which I found at the Tuskar Light-Station:—Length, 17·3 cm. Wing, 10·1 cm. Tail, 7 cm. Foot, 2·4 cm. Spur, 1·4 cm. Culmen, 8 mm. Weight, 1 oz. 3 drams. Condition, very good, much fat under skin. Gizzard empty. Plumage good; moult finished. Sex, male. Age, immature. Injury, fracture of the roof of the right orbit, and of the right parietal and right occipital regions of the skull. Such injuries were more than likely sustained as the bird came with great force against the lantern-glass.

N.B.—The measurements fairly represent the average found in the Common Sky-Lark, but the weight in this Asiatic bird is on the whole proportionately greater. Its remarkably fat condition is noteworthy, that is, if we are to correlate such with a lengthened and continuous journey already performed before reaching Ireland. I have noticed how very fat and in what excellent condition are many birds taken on migration. Such condition must mean a special adaptative or physiological state acquired to sustain the voyagers when, unable to secure food, they are pressed with the pangs of hunger. If, in conjunction with this factor, we consider the wonderful endurance and wing-power in birds, we can better understand how it is that they, affecting a very protracted migration, often reach their destination in a decidedly vigorous condition.

* "Some Rare Birds from Scottish Stations," Eagle Clarke, 'Annals of Scottish Natural History,' 1906, p. 139.

THE FIRST RELIABLE ACCOUNT OF THE ORANG-UTAN (*SIMIA SATYRUS*, L.).

By J. C. Moulton, F.Z.S., Curator of the Sarawak Museum.

In 'Evidence as to Man's Place in Nature' Prof. Huxley gives a most interesting account of the natural history of Man-like Apes, tracing the growth of our knowledge of them from earliest records to 1863 (the year in which that book appeared).

He writes that he has not met with any notice of these Man-like Apes of earlier date than that contained in Pigafetta's 'Regnum Congo' (1558); in this, however, there is only a brief note, and Huxley tells us that it is not till the publication of Purchas's book in 1613 that we find the first account of two Man-like Apes, written down by Purchas from the narrative of one Andrew Battell, who spent many years in the Congo. He called the larger kind the "Pongo," which is now known to us as the Gorilla, the largest of the Man-like Apes, and the smaller the "Engeco," now known as the Chimpanzee. Andrew Battell therefore has the credit of being the "discoverer" (in the European sense) of the Gorilla and Chimpanzee.

Bontius apparently is one of the first to give an account of an Orang-Utan (1658); but Huxley styles it as "altogether fabulous and ridiculous," and says the picture given is "nothing but a very hairy woman of rather comely aspect, and proportions and feet wholly human."

Vosmaer would appear to be the first to give a careful account of a young Orang-Utan (1778), and a year or two after we get a full description of an adult shot near Pontianak by a Mr. Palm, a Dutch resident in Borneo. This animal was examined by a German naturalist, Von Wurmb, who published a careful description in Batavia. And although Huxley does not expressly say so, we are led to infer that Vosmaer, Palm, and Von Wurmb share the honour of being the first to tell us about the Orang-Utan, and that only some 130 years ago.

In view of this, I thought the following much older account might be of some interest to zoologists. It is taken from an old book entitled 'A Voyage To and From the Island of Borneo in the East Indies,'* by Captain Daniel Beeckman, published in London in 1718. The author was sent out by the Honourable East India Company to try and reopen trade at Banjermassin, in South-east Borneo, where the first British Settlement in Borneo had failed so ignominiously eleven years before (1702). Captain Beeckman left London in October, 1713—just 200 years ago—and reached Banjermassin at the end of the following June. After six months passed in successful trading he returned *viâ* the Bali Straits, the Cape, St. Helena, and Ascension, reaching England again in October, 1715. Space forbids mention of the hardships and adventures encountered on the voyages out and back, but the reader may be sure that they provided incidents of more moment than one is likely to meet in the month's run out to or from the East nowadays.

In describing the leading natural history features of Banjermassin he mentions the Orang-Utan, and gives the following description, which I venture to put forward as "the first reliable account of the Orang-Utan":—

"The Monkeys, Apes, and Baboons are of many different Sorts and Shapes; but the most remarkable are those they call Orang-ootans, which in their Language signifies Men of the Woods: These grow up to be six Foot high; they walk upright, have longer Arms than Men, tolerable good Faces (handsomer I am sure than some Hottentots that I have seen), large Teeth, no Tails nor Hair, but on those Parts where it grows on humane Bodies; they are very nimble footed and mighty strong; they throw great Stones, Sticks, and Billets at those Persons that

* The full title of the book continues thus:—"With a Description of the said Island: Giving an Account of the Inhabitants, their Manners, Customs, Religion, Product, chief Ports, and Trade, together with the Re-establishment of the English Trade there, An. 1714, after our Factory had been destroyed by the Banjareens some years before. Also a Description of the Islands of Canary, Cape Verd, Java, Mandura; of the Streights of Bally, the Cape of Good Hope, the Hottentots, the Island of St. Helena, Ascension, etc. With some Remarks and Directions touching Trade, etc. The whole very pleasant and very useful to such as shall have occasion to go into those Parts."

offend them. The Natives do really believe that these were formerly Men, but Metamorphosed into Beasts for their Blasphemy. They told me many strange Stories of them, too tedious to be inserted here. I bought one out of curiosity, for six Spanish Dollars; it lived with me seven Months, but then died of a Flux; he was too young to show me many Pranks, therefore I shall only tell you that he was a great Thief, and loved strong Liquors: for if our Backs were turned, he would be at the Punch-bowl, and very often would open the Brandy Case, take out a Bottle, drink plentifully, and put it very carefully into its place again. He slept lying along in a humane Posture with one Hand under his Head. He could not swim, but I know not whether he might not be capable of being taught. If at any time I was angry with him, he would sigh, sob, and cry, till he found that I was reconled (*sic* ? reconciled) to him; and tho' he was but about twelve Months old when he died, yet he was stronger than any Man in the Ship."

Accompanying this account is a most unnatural picture of a muscular, naked man with a very large mouth and a well-drawn thumb in place of his big toe. There is no mention of the artist, and one must suppose that it was drawn in England from the author's written or verbal description. Besides this picture, there are one or two passages in the above account which may well make the reader question the correctness of my title, "*reliable* account." For instance, no Orang-Utan reaches six feet in height; Wallace gives 4 ft. 2 in. as the most. The Orang-Utan does not walk upright, although of course they can and do stand upright when occasion demands. "Tolerable good Faces" I think must be taken as an indication of the change in our ideas of beauty since the days of our great-grandfathers, two hundred years ago, for I doubt if any visitor to the Zoo would be inclined to prefer the facial beauty of the Orangs there to that of members of his own species. The statements that they are without hair, "but on those Parts where it grows on humane Bodies," and that "they are very nimble footed," are difficult to account for if we are to believe any of the author's description. The Orang-Utan, as everyone knows, has a coat of coarse reddish hair (though not on his face, and often only thinly on head and abdomen), and his movements are

remarkably sluggish and deliberate, in marked contrast to the lively activity of other Monkeys.

However, to dispel these doubts and to justify the claim to reliability, let me quote our author's opening remarks, entitled :—

"To the Reader.

"It is a common saying, and indeed generally proves true, *That Old Men and Travellers do give themselves great Liberty in relating fictitious and improbable Stories.* The Distance of Time being as great a Protection to the former as that of Place is to the latter: But I can assure my Reader, that the case is otherwise here; for I made it my Study to adhere, as much as possible could be, to Truth, especially in those things which fell within the pale of my own Knowledge, having always made it my Maxim to have a greater regard to Utility than Pleasure. As to what I had by Hear-say from the Natives, I neither have inserted the Hundredth part of what they told me, neither do I much insist on the Truth of what I have inserted, though more probable than what I omitted; but do leave it to the Reader's choice to believe or reject as he shall think fit."

And here I, too, must leave it to the reader's choice to regard or not, "as he shall think fit," the Englishman, Captain Daniel Beeckman, as the first to describe the Orang-Utan.

STUDIES IN GARDEN ANNELIDS: THE BOTANIC GARDENS, OXFORD.

By the Rev. Hilderic Friend, F.R.M.S.

During recent years quite a number of new worms have been described by me in these columns. The articles, however, have usually been confined to a somewhat systematic account of individuals or their distribution, and hitherto little has been done to show what Annelids may be found in gardens as a whole. It is proposed, therefore, to study the subject of garden worms from a new standpoint, and give an account of the principal forms to be met with in some of the best known gardens in the country. Having recently paid special visits to Leicestershire, Notts, Oxfordshire, Sussex, Ireland, and other places for the study of Annelid Economics and Bionomics, I have been able, by aid of a Government Grant, to add greatly to our knowledge of this important subject in relation to agriculture and horticulture, and I am anxious that gardeners in particular should know a little about a theme which has been far too little studied. Perhaps I cannot do better than begin with an account of some of the Annelids to be found in the Botanic Gardens at Oxford. It is many years since my attention was first directed to this interesting spot, as was shown in 'The Zoologist' (*ante*, pp. 70–1). It is nearly ten years since I gave, in the 'Gardener's Chronicle,' an account of some of these creatures (March 12th, 1904), while in a later issue (Nov. 27th, 1909) a worm new to science was described from these gardens. They were revisited during the month of April last, and the study was extended to the Whiteworms, or Enchytræids, and the Waterworms. Up till that date fifteen species of *Lumbricidæ* had been recorded, but nothing was known of the two other families. We are still in total ignorance of the Oxford *Naididæ*, *Lumbriculidæ*, and other families, but these are not of general interest to gardeners.

Let us begin with those species which are most familiar—the species of true *Lumbricus*—of which four are found in England and a fifth in Ireland. They are known by their ruddy-brown colour, the girdle extending over six segments, with a band on the under surface of the inner four, and by the shape of the head. Three of these, all common, have been found in Oxford Gardens—the true Earthworm (*L. terrestris*), the Red Worm (*L. rubellus*), and the Purple Worm (*L. castaneus*). The genus *Allolobophora* is a large one, and has of recent years been divided into several subgenera. We find here the Long Worm (*A. longa*), which was formerly always confused with the true Earthworm; the Turgid Worm (*A. turgida*), with papillæ on segments 31 and 33; and the Brandling (*Eisenia fœtida*), which is always to be found in manure-heaps, is known by its alternate brown and yellow stripes, and is greatly in request among anglers. Its near relative, the Rosy or Mucous Worm (*E. rosea*), is also present, with the very common Green Worm (*A. chlorotica*), which is very sluggish, and gives off, like the Brandling, a large quantity of turbid fluid when irritated.

All the foregoing are to be found universally distributed in this country, and are invariably of value to the gardener. Possibly an exception might at times be made in reference to the Green Worm, which has been accused of damaging crops, but I believe it has never been shown to injure plants until they showed signs of unhealthiness or decay. Among the less frequent forms, I found at Oxford the pretty Celtic Worm (*Dendrobæna mammalis*) in fair numbers. It is not so much a denizen of the garden as of the rough places which are usually to be found on the outskirts, where rubbish, old potting material, refuse of various kinds, road-scrapings, and other forms of *débris* accumulate. It is not so common as the Gilt-tail (*D. subrubicunda*), which is usually very profuse in old leaf-mould, and is a very valuable aid to the gardener. The Oxford Gardens have yielded me, in addition to the above, several other *Lumbricidæ* more or less rare. There are, for example, two steel-blue worms with yellow tails and clay-coloured girdles, known as *Octolasium*. One of these (*O. cyaneum*) has the girdle on segments 29 to 34, while the other (*O. lacteum*) has it one segment further back. Related to these is another species (*O. inter-*

medium), which seems never to have been found elsewhere. It is the creature described in the 'Gardener's Chronicle' of November, 1909. The same applies to the variety (*tepidaria*) described in March, 1904, though several other forms have been found elsewhere. In addition to the Square-tailed Worm (*Allurus*), I also found another which is a denizen of soft mud. It had never been found in Oxford before (*Helodrilus oculatus*), though I have recorded it for the Botanic Garden, Cambridge, and have found it of recent years in many parts of Great Britain. It is very useful where the soil is stiff, and can thrive in situations which all other worms eschew.

The foregoing is a pretty complete list of the *Lumbricidæ* so far as the Oxford Gardens go. Others would no doubt be added if I could be regularly supplied with specimens, or could personally visit the grounds at other seasons of the year. But now we come to other forms. It almost always happens that Botanic Gardens contain a variety of foreign or doubtful species, and in this respect Oxford is no exception. In the warm house where the Nymphæas are grown the Eastern worm, usually known as *Perichæta indica*, is not uncommon; in spite of the fact that Mr. Baker had recently had the old earth removed and the beds remade. Had the material so removed been examined by an expert, it would doubtless have yielded many valuable and interesting species, which it will now be for ever impossible to record. Along with *Perichæta* I found specimens of a very attenuated Annelid which has never been under observation before. Unfortunately, the specimens succumbed to the cold before I could examine them, and for the present the species and genus must remain undecided. It was not an indigenous worm, and seemed to me new to science. Its value lay in the ease with which it could force its way through the stiff loam.

All the foregoing are terrestrial. In the water and mud a number of aquatic Annelids are to be found. The *Tubificidæ* are slender, red-blooded creatures, which, by the movements of their tails, keep the water oxygenated, while they pass the mud through their intestines and pour it out in streams. Here I found *Branchiura* busy at work. It is an interesting discovery, having been first taken many years ago in the *Victoria regia* tank in Regent's Park, and described in 1892 by Beddard. Since

then it has been found at Kew, Hamburg, Dublin, and elsewhere, but Benham seems to have had no suspicion of its existence at Oxford, though he worked there for some years. Along with this interesting Annelid were at least three species of the allied genus *Limnodrilus*. One of these (*L. hoffmeisteri*) is pretty common in England. Two other species, however, are rare or unknown. This is not the place to enter into details, but it may be stated that one species is marked by its golden tail, the other by the mass of circular corpuscles which abound in the cœlom. The latter may be new to science.

Finally, attention must be paid to those important though little-known creatures, the White Worms, or Enchytræids. If Annelids are ever guilty of injuring living plants, it is upon this group that the chief blame must fall. The Enchytræids are a vast family, and in our English gardens there are an incredible number of species. They belong to many genera, such as *Enchytræus*, *Henlea*, *Buchholzia*, and *Fridericia*. Of the Henleas alone we have upwards of thirty British species, already described by myself, while the known Fridericias exceed that number, and still are by no means completely known. Belonging to the genus *Enchytræus* I found three species in the leaf-mould. Of these one at least (*E. parvulus* = *E. argenteus*) is with reason suspected of being very dangerous to flowering plants. The largest (*E. albidus*) is very common in well-rotted manure, and is doubtless beneficent, while the other (*E. minimus*) is, as its name implies, very minute, often not exceeding 2 to 3 mm.

Two species of *Henlea* occurred in April in the Gardens, but there is little doubt that the number would be greatly increased by a little systematic study. Finally, about half a dozen species of *Fridericia* were taken, and notes made of one or two other doubtful forms, which can only be determined when fresh material has been obtained. What is the net result? We have already on record for the Oxford Botanic Gardens some sixteen species of indigenous *Lumbricidæ*, a *Perichæta*, a foreign *Helodrilus* or its ally, four species of *Tubificidæ*, including *Branchiura*, and a dozen Enchytræids, making upwards of thirty different species of Oligochæts, nearly every one of which is of value to the gardener. This is the first attempt at such a study

in this country, and the results seem to justify a continuation of the work.

List of the Oligochæts of Oxford Botanic Gardens.

Tubificidæ.

1. *Branchiura sowerbyi*, Beddard. Abundant in lily pond.
2. *Limnodrilus hoffmeisteri*, Clapr.
3. *Limnodrilus* (two species not yet determined).

Enchytræidæ.

4. *Henlea rhætica*, Bretscher.
5. *H. inusitata*, Friend.
6. *Enchytræus albidus*, Henle.
7. *E. argenteus*, Mich. (= *E. parvulus*, Friend).
8. *E. minimus*, Bret.
9. *Fridericia bulbosa*, Rosa.
10. *F. perrieri*.
11. *Fridericia* (species not yet determined).
12. *Chamædrilus chlorophilus*, Friend (or ally).

Megascolicidæ.

13. *Pheretima* (? *indica*. Perished before being identified).
14. Another foreign worm ; also perished.

Lumbricidæ.

15. *Helodrilus oculatus*, Hoffm.
16. *Eisenia rosea*.
17. *E. fœtida*.
18. *E. veneta*, Rosa, var. *tepidaria*, Friend.
19. *Dendrobæna mammalis*.
20. *D. subrubicunda*.
21. *Allurus* (*Eiseniella*) *tetrædrus*.
22. *Allolobophora longa*, Ude.
23. *A. turgida*, Eisen.
24. *Aporrectodea chlorotica*.
25. *Octolasium intermedium*, Friend.
26. *O. cyaneum*.
27. *O. lacteum*.
28. *Lumbricus castaneus*, Sav.
29. *L. rubellus*, Hoffm.
30. *L. terrestris*, Linn.

NOTES AND QUERIES.

MAMMALIA.

Decrease of the Squirrel.—So far as my personal observations go, the decrease of the Squirrel (*ante*, p. 274)—at least, in the Midland Counties—is very general, and for what reason it is very difficult to conjecture. Their numbers used to be kept down on some estates, but this has ceased to be necessary nowadays, and with all the encouragement and preservation they receive at the hands of others their numbers have rapidly decreased. As a schoolboy in Bedfordshire (the county I know most intimately), some thirty years ago, Squirrel hunts were very much in vogue, and there was no difficulty in finding our quarry commonly in any of the larger spinneys and plantations and well-timbered parts of that county. From many of such localities it is now entirely absent, and comparatively rare in even the larger firwoods; so much so, it is often quite overlooked by the ordinary observer.—J. Steele Elliott (Dowles Manor, Salop).

AVES.

Grey Lag Geese in Cumberland.—The occurrence of *Anser cinereus* in any of the northern counties of England is always sufficiently rare at any season to make it worth putting on record, while it is quite unusual to find any kind of Wild Goose in the country during August. It was with no common interest, therefore, that on Sunday evening last (August 10th) I listened to the familiar gaggling of a party of Grey Lags passing overhead, about 11 p.m., two or three miles west of Alston, in North-west Cumberland. It was, of course, too dark to see anything of them at that hour, but the calling seemed to indicate that there might be at least half a dozen birds in the gaggle. The evening was absolutely calm, and their cries demonstrated that the birds were flying very high, travelling in a south-westerly direction, which would very shortly bring them over the Eden and Ulleswater valleys, where, according to the late Rev. H. A. Macpherson, the species once maintained a precarious footing. In 'The Birds of Northumberland and the Eastern Borders,' published just a year ago,

I gave one or two August records of Grey Lag Geese in that adjoining area, besides some other "summer" occurrences of "Grey Geese" whose identity was somewhat less well established, and one or two more old records of a similar nature might have been given from my journals; but it is not a little remarkable that Geese should be found sufficiently recovered from their autumn moult to undertake these long migrations so early in the season. That they have already moulted their flight-feathers is, of course, only assumed, but it seems improbable that they would venture to leave their summer quarters to run the risk of passing some weeks in the flightless condition in which the moult leaves them in any of their known winter resorts. Mr. Abel Chapman has observed that they do not usually arrive in Spain before November, though quitting their breeding haunts in Norway nearly two months previously, and asks rather pertinently where the bulk of them pass the intervening period ('Bird Life of the Borders,' 2nd ed. p. 350). I should like to ask whether there is any record of Geese having been seen anywhere, except at their breeding stations, unable to fly through the loss of their flight-feathers? In the days of less scientific ornithology, of not so very many years ago, the appearance of Wild Geese in this country, in August, would certainly have been put down as the forerunner of a severe and early winter. The real reason of their unusual visit in this case, I fear, must be assigned to their either not having bred at all, or to the early loss of their broods or nests. I was sorry to hear from a friend only a few days ago that during a visit to Ross-shire this summer he had been unable to see a single Grey Lag Goose in one of their ancient and best known breeding quarters.—GEORGE BOLAM.

The Turtle-Dove (Turtur communis) in the Border Counties.—In 'The Zoologist' for April last (*ante*, p. 121) there was a note of a nest of the Turtle-Dove having been found near Carlisle in June, 1912, which, it was then stated, was the first authenticated instance of the breeding of this species in Cumberland. Students of the county fauna would no doubt note this with reservations—mental or otherwise—but for the benefit of less well-informed readers, I was rather surprised that the statement was not afterwards qualified by reference to the fact that, in his 'Fauna of Lakeland' (p. 316), Mr. Macpherson had, so long ago as 1892, already referred to more than one nest in Cumberland—one of them at Scotby, near Carlisle, in 1885. Details of other occurrences will be found in his book, and need not be further referred to here, but, in view of the fact that the bird is yet

nowhere very well established in the North of England, the following may be worth putting upon record:—On August 26th of the present year I saw a single bird on the wing by the side of the Eden, near Langwathby, but was not near enough to it to be able to say whether it was adult or immature. Three days later an adult flew past a friend and myself close to Birdoswald, on the Irthing, while we were engaged in an examination of the Roman wall and its station there. The river here forms the boundary between Northumberland and Cumberland; Langwathby, it need hardly be added, is well within the latter county. On August 16th I saw a Turtle-Dove near Egglestone, in Teesdale, Co. Durham; and on July 13th, Mr. Abel Chapman told me that during the previous week an immature example had visited his garden at Houxty, on the North Tyne, Northumberland, the first he had seen there.—GEORGE BOLAM.

Notes on the Dabchick (Podicipes fluviatilis). — One of my daughters lives within a walk of this house, and has the rather unusual opportunity of watching Dabchicks from the windows which overlook the moat. This moat is a "protected area" for all wild life, with the one exception of the Brown Rat. A pair of Dabchicks have nested there twice this season, each brood consisting of two only. When watching the second brood I noticed that each parent took a chick in charge, and the two old birds kept some distance apart, continually diving and bringing up food for the young. One day I had a good view of a Dabchick walking on the soft ground close to the moat; the attitude was almost upright, and the bird seemed to walk without any difficulty. A Duck which visits the moat frequently was seen on one occasion to be fiercely pursued by one of the Dabchicks. — JULIAN G. TUCK (Tostock Rectory, Bury St. Edmunds).

Notes on Nest-Boxes.—There is nothing new to record in our nest-boxes this year, as they only attracted the usual tenants. Our list is:—Great Tit, Blue Tit (several of each), Coal Tit (one), Nuthatch (one brood of six hatched out), Tree-Sparrow (many), Starling, Tawny Owl, and Stock-Dove. I did not go up to the Tawny Owl's nest till the young were hatched; there were only two, which got off safely. The birds used the same box which they occupied two years ago, in a yew tree near the house. On March 8th a Stock-Dove had two eggs in a box, and in this three pairs of young have since been reared, probably by the same parents. Redstarts and Wrynecks seem almost extinct here; I have not seen a nest of either for several years, though our garden-boy assures me that he heard the "Cuckoo-

leader" in a plantation near the house this spring.—JULIAN G. TUCK (Tostock Rectory, Bury St. Edmunds).

AMPHIBIA.

Scarcity of the Frog.— Have any readers of 'The Zoologist' noticed that the Frog is becoming a scarce animal in their parts of the country? It is so here. The other day my man was cutting a patch of rather long grass when a very fine one sprang out at our feet, and he remarked at once that he did not know when he had seen one last. Years ago the little cattle ponds were noisy in March, and the hay meadows were full of Frogs. But it is long since I have heard a good Frog concert about here, and you may go through a whole summer and hardly see a Frog. Toads, on the other hand, seem as common as ever. Why do Toads insist on coming into buildings? We have had two in the house lately (June)—one of them in the middle of the hall—and I found a third in the tool-house. One could understand their coming indoors when the weather was cold.—O. V. APLIN (Bloxham, Oxon).

INSECTA.

Notes on Butterflies. — Possibly, as an after-effect of the wet summer last year, and partly owing to the wet months of March and April this year, when rain to the amount of about eight inches fell on nearly forty days, butterflies up to the time of writing (July 1st) have been very scarce indeed, with the exception of some of the open-ground species, Meadow Browns, &c. The Brimstone is generally very common here in spring, but this year I have only seen one specimen, and that not until May 23rd. There were "many" on the wing on April 3rd the previous year. The ordinary hybernated Small Tortoiseshells have been few and far between, April 29th (the day of the great flood in the village) being, I think, the first day on which I saw as many as three or four. The same day I saw the only Peacock, so far. The Orange Tip, on the other hand, which appeared on April 29th (22nd last year), was fairly common for a short time. I noticed the Holly Blue in May both here and at Wroxton. Since writing the above we have had for the last fortnight a good many Large and Small Garden Whites, and a fair number of Small Tortoiseshells, but I have not yet (August 11th) seen a Red Admiral. I may also mention that I have not this season seen a single specimen of the Cinnabar Moth, an insect which is generally quite common in my garden.—O. V. APLIN (Bloxham, Oxon).

MOLLUSCA.

The "Flying Squid" (Ommastrephes sp.). — The Squids have been often recorded as leaping from the water on board ships. Bennett (1840), in his 'Narrative of a Whaling Voyage round the Globe' (vol. ii. p. 291), records an instance of one reaching the deck in lat. 34° N. My son William Distant, when travelling to West Africa on board the mail steamship 'Falaba' in the early part of last month (August), when in lat. 27″ 43′ N. and long. 15″ 19′ W., writes me that no fewer than about thirty specimens reached the deck, which they covered "with a black fluid"; a photograph of four examples which he sent me left no doubt as to their identity. They are gregarious, and are pursued by many enemies, such as Dolphins, Cachalots, Albacore, and the larger Petrels. But that thirty should reach the deck of a mail steamer is somewhat of a record.—W. L. Distant.

NOTICES OF NEW BOOKS.

A Naturalist in Cannibal Land. By A. S. Meek. T. Fisher Unwin.

Mr. Meek has travelled widely in the Papuan regions as a collector of natural history specimens, almost entirely for birds and Lepidoptera. He is a true enthusiast in his work, dangers are the spice of his adventures, he is a most modest narrator of his own achievements and disclaims any scientific pretensions, his success in his own work has been signal. The Tring Museum is the storehouse of his collections and discoveries, as most readers of the 'Novitates Zoologicæ' are aware, and in the owner of that Museum, the Hon. Walter Rothschild, he has found his Mæcenas and inspiring patron—in fact, we can almost trace cause and effect.

The book is a most attractive one for the naturalist, and especially for the lepidopterist. Mr. Meek has had great success with those giant and beautiful eastern butterflies generally known by the generic name of *Ornithoptera*, and has discovered some magnificent species and local races belonging to it. He has also

given some vivid descriptions of the remote and little known islands he has visited. But beyond this the book, without any anthropological pretence, is of the greatest value to students of the science of man. He describes the primitive peoples with whom he has sojourned at first hand, without the hamper of preconceived notions, and in simple recital makes us acquainted with many interesting and some important details of customs and belief. The photographic illustrations are of anthropological excellence, and one in particular, "The kiss, Papua," is important, for kissing is not a universal custom of mankind, and it is not everyone who knew it was followed in Papua. By-the-bye, Mr. Meek does not tell us either whether he took these portraits himself, or whence they were obtained.

Mr. Meek, who is apparently immune from the dangers of wild life in Papua, but was—as he states—recently nearly killed by a taxi-cab in London, is returning to the South Seas, "with another ten years at least to look forward to of collecting in wild country." May his forecast be assured, and may we also hope to read a new book on his return !

Hampstead Heath : its Geology and Natural History. Prepared under the Auspices of the Hampstead Scientific Society. T. Fisher Unwin.

This is a book with many contributors, and in such a case is naturally a little uneven. Geology is described by F. W. Rudler, and when we see that name it is at once apparent that his subject will be not only treated with absolute knowledge, but will also be written with lucidity. Needless to say, we are not disappointed, and, having been well introduced to the geological floor, we can turn to the living things above it. Three chapters are devoted to "Plant Life," a subject beyond the purview of 'The Zoologist,' Mr. Goodchild has undertaken "Bird Life," and Mr. Hugh Findon "Mammals, Fishes, and Reptiles," as well as "Molluscs." "Insect Life" is undertaken by Dr. F. O'Brien Ellison, and although some very interesting entomological information is given regarding special insects, the specific list at the end of his chapter refers only to Lepidoptera and Coleoptera, the latter especially being a very attenuated enumera-

tion. Mr. James Burton has written a chapter on "Pond Life." As an Appendix, is given "A Select List of Books," which is really a very judicious compilation, and there are some very attractive illustrations.

This book is a very excellent introduction to the natural history of Hampstead Heath, a locality better known as a holiday resort by the public, and for many reminiscences by literary men, than as a classic ground by naturalists. May this volume create a new interest, and its readers may possibly be able by intelligent exertion to add to the lists of plants and animals—especially the less developed animals—which its pages contain.

EDITORIAL GLEANINGS.

The following is an extract from the recently published report of the Warden of the Transvaal Game Reserves, Major Stevenson-Hamilton:—

"But for Government action there would now have been nothing left in all the low country, especially in view of the introduction and general use of repeating weapons, and the facilities of travel now available. Elands have been absolutely exterminated; elephants had been all killed or driven out of the country; the white and nearly all the black rhinoceros had vanished; the buffalo had disappeared before the rinderpest came from everywhere excepting the Sabi Bush and a small patch near the Olifants River; roan antelope were on the very verge of extinction; the days of the giraffe were numbered; the hippos, in spite of recruiting from Portuguese territory, were rapidly disappearing. The last survivors of the once magnificent Transvaal fauna had in fact been rounded up into one little strip near the foot of the Lebombo Hills, the hunters were closing in on them from all sides, and the last act in the drama was about to commence. Small-bore rifles and swarms of hunters would quickly have accounted for the last representatives of the last species remaining. Before the Reserves were inaugurated, the animals had to face not only the biltong and other hunting by white men all the winter, but the almost equally destructive agency of hordes of

natives armed with guns, and coming from both the Transvaal and Portuguese territory during all the long months when the withdrawal of all Europeans from the hunting grounds gave them the field to themselves."

The following extracts are taken from the Annual Report by the Police Committee of the Commissioners of the River Tweed:—

"Shooting of Cormorants.—The Committee have received a very interesting report from Mr. R. Herbert Dodds on the shooting of Cormorants in the lower reaches. The number of these destructive birds shot and delivered was 125, as compared with 53 last year, and it is evident that they are gradually finding their way higher up the river, as one of the cormorants killed was shot at Kelso Mill, a few hundred yards above Kelso Bridge, near the junction of Tweed and Teviot, while another was got at Sprouston, and two at Carham. Two were reported as far inland as Innerleithen, but were not secured, and one was shot on the Whitadder. Mr. Dodds reports, as the heaviest bird taken, one shot on January 20th at Gainslaw. It weighed 10½ lb., and was found to contain in its gullet a sea trout kelt of 1¾ lb., leaving the net weight of the bird 8¾ lb. Mr. Dodds believes the weight to be a record one for the species. Other cormorants killed and cut open also contained trout and small fry. It may be mentioned that the killing of cormorants at sea has not been encouraged, as it was for birds frequenting the river itself that a reward was primarily offered. At the same time the Committee feel that far the most effective way in which to reduce the number of cormorants to a reasonable limit would be by destroying the eggs of the birds at their nearest nesting haunts. The Committee are renewing their request that the eggs of cormorants should be destroyed at the Farne Islands.

"Reducing the Number of Coarse Fish.—A determined effort has been made during the present summer to reduce the number of grayling and other coarse fish in the river. The operations were placed by the sub-committee in charge of the matter in the hands of Mr. Smith, the superintendent of the River Tweed Police, by whom a crew of water bailiffs, accustomed to the use of the net, was formed; and, with the ready consent and co-operation of the proprietors of the various waters fished, this crew has netted the Tweed for grayling from Ashiestiel, in Selkirkshire, to Horncliffe, near Norham, and its tributary, the Teviot, from Monteviot to Roxburgh Castle. Operations were begun on April 7th, and concluded on August 9th.

The number of days on which fishing took place was 162, and there were 1672 shots of the net. The number of coarse fish taken out and destroyed was as follows:—Grayling, 5791; roach, 1436; perch, 234; pike, 42; gudgeon, 585; eels, 78—total, 8166. There were also caught by the net during operations 23 salmon, 5 grilse, 54 sea trout, and 3280 fresh water trout, which were carefully returned to the river. The largest catch of grayling was at Monteviot, where 1186 were taken, Birgham being next with 970. Roach and gudgeon were entirely confined to the waters below Cornhill, with the exception of 2 roach secured at Monteviot and Roxburgh Castle on the Teviot. Perch were mainly in the lower waters, though 54 were taken at Hendersyde. Pike were mainly in the higher reaches netted, while eels were taken nearly all over. Most of the salmon were netted in the upper waters, while brown trout were taken everywhere. Many of the fish destroyed were opened, but pike and perch were the only fish in whose stomachs anything was found. One pike contained two yellow trout (six and nine inches) and five small fish so far digested that they could not be identified. Another had three smolts, and a third two yellow trout about eight inches each. Twelve of the perch had small fry in their stomachs." — ('The Scotsman,' August 30th, 1913.)

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, BIRMINGHAM, 1913.

ADDRESS TO THE ZOOLOGICAL SECTION.

By H. F. Gadow, M.A., Ph.D., F.R.S., *President of the Section.*

"Address your audience about what you yourself happen to be most interested in, speak from the fullness of your heart, and make a clean breast of your troubles." That seemed good advice, and I shall endeavour to follow it, taking for my text old and new aims and methods of morphology, with special reference to resemblances in function and structure on the part of organs and their owners in the animal kingdom. First, however, allow me to tell you what has brought me to such a well-worn theme. Amongst the many impressions which it has been my good luck to gather during my travels in that enchanting country Mexico are the two following:—

First, the poisonous Coral snakes, *Elaps*, in their beautiful black, red, and yellow garb; it varies in detail in the various species of *Elaps*, and this garb, with most of the variations too, occurs also in an astonishing number of genera and families of semi-poisonous and quite harmless Mexican snakes, some of which inhabit the same districts. A somewhat exhaustive study of these beauties has shown incontestably that these often astoundingly close resemblances are not cases of mimicry, but due to some other co-operations.

Secondly, in the wilds of the State of Michoacan, at two places, about twenty and seventy miles from the Pacific Coast, I myself collected specimens of *Typhlops* which Dr. Boulenger without hesitation has determined as *Typhlops braminus*. Now, whilst this genus of wormlike, blind little snakes has a wide circumtropical distribution, *T. braminus* had hitherto been known only from the islands and countries of the Indian Ocean basin, never from America, nor from any of the Pacific Islands which possess other kinds of *Typhlops*. Accidental introduction is out of the question. Although the genus is, to judge from its characters, an especially old one, we cannot possibly assume that the species *braminus*, if the little thing had made its way from Asia to Mexico by a natural mode of spreading, has remained unaltered even to the slightest detail since that geological epoch during which such a journey could have taken place. There remains the assumption that amongst the of course countless generations of *Typhlops* in Mexico some have hit off exactly the same kind of permutation and combination of those characters which we have hitherto considered as specific of *braminus*, just as a pack of cards may in a long series of deals be dealt out more than once in the same sequence.

The two cases are impressive. They reminded me vividly that many examples of very discontinuous distribution—which anyone

who has worked at zoogeography will call to mind—are exhibited by genera, families, and even orders, without our knowing whether the groups in which we class them are natural or artificial. The ultimate appeal lies with anatomy.

Introduced to Zoology when Haeckel and Gegenbaur were both at their zenith, I have been long enough a worker and teacher to feel elated by its progress and depressed by its shortcomings and failures. Perhaps we have gone too fast, carried along by methods which have yielded so much, and therefore have made us expect too much from them.

Gegenbaur founded the modern comparative anatomy by basing it upon the theory of descent. The leading idea in all his great works is to show that Transformation, "continuous adjustment" (Spencer), has taken place; he stated the problem of comparative anatomy as the reduction of the differences in the organization of the various animals to a common condition; and as homologous organs he defined those which are of such a common, single origin. His first work in this new line is his classical treatise on the Carpus and Tarsus (1864).

It followed from this point of view that the degree of resemblance in structure between homologous organs and the number of such kindred organs present is a measure for the affinity of their owners. So was ushered in the era of pedigrees of organs, of functions, of the animals themselves. The tracing of the divergence of homogenous parts became all-important, whilst those organs or features which revealed themselves as of different origin, and therefore as analogous only, were discarded as misleading in the all-important search for pedigrees. Functional correspondence was dismissed as "mere analogy," and even the systematist has learnt to scorn these so-called physiological or adaptive characters as good enough only for artificial keys. A curious view of things, just as if it was not one and the same process which has produced and abolished both sets of characters, the so-called fundamental or "reliable" as well as the analogous.

As A. Willey has put it happily, there was more rejoicing over the discovery of the homology of some unimportant little organ than over the finding of the most appalling unrelated resemblance. Morphology had become somewhat intolerant in the application of its canons, especially since it was aided by the phenomenal growth of Embryology. You must not compare ectodermal with endodermal products. You must not make a likeness out of another germinal layer or anything that appertains to it, because if you do that would be a horror, a heresy, a homoplasy.

Haeckel went so far as to distinguish between a true Homology, or Homophyly, which depends upon the same origin, and a false Homology, which applies to all those organic resemblances which derive from an equivalent adaptation to similar developmental conditions. And he stated that the whole art of the morphologist consists in the successful distinction between these two categories. If we were able to draw this distinction in every case, possibly some

day the grand tree of each great phylum, maybe of the whole kingdom, might be reconstructed. That would indeed be a tree of knowledge, and, paradoxically enough, it would be the deathblow to classification, since in this, the one and only true natural system, every degree of consanguinity and relationship throughout all animated nature, past and present, would be accounted for; and to that system no classification would be applicable, since each horizon would require its own grouping. There could be definable neither classes, orders, families, nor species, since each of these conceptions would be boundless in an upward or downward direction.

Never mind the ensuing chaos; we should at least have the pedigree of all our fellow creatures, and of ourselves among them. Not absolute proof, but the nearest possible demonstration that transformation has taken place. Empirically we know this already, since, wherever sufficient material has been studied, be it organs, species, or larger groups, we find first that these units had ancestors, and, secondly, that the ancestors were a little different. Evolution is a fact of experience proved by circumstantial evidence. Nevertheless, we are not satisfied with the conviction that life is subject to an unceasing change, not even with the knowledge of the particular adjustments. We now want to understand the motive change. First What, then How, and now Why?

It is the active search for an answer to this question (Why?) which is characteristic of our time. More and more the organisms and their organs are considered as living, functional things. The mainspring of our science, perhaps of all science, is not its utility, not the desire to do good, but, as an eminently matter-of-fact man, the father of Frederick the Great, told his Royal Academicians (who, of course, were asking for monetary help) in the following shockingly homely words: "Der Grund ist derer Leute ihre verfluchte Curieusiteit." This blamed curiosity, the beginnings of which can be traced very far back in the lower animals, is most acutely centred in our desire to find out who we are, whence we have come, and whither we shall go. And even if Zoology, considering the first and last of these three questions as settled, should some day solve the problem: Whence have we come? there would remain outside Zoology the greater Why?

Generalizations, conclusions, can be arrived at only through comparison. Comparison leads no further where the objects are alike. If, for instance, we restrict ourselves to the search for true homologies, dealing with homogenes only, all we find is that once upon a time some organism has produced, invented, a certain arrangement of *Anlage* out of which that organ arose, the various features of which we have compared in the descendants. Result: we have arrived at an accomplished fact. These things, in spite of all their variety in structure and function, being homogenes, tell us nothing, because according to our mode of procedure we cannot compare that monophyletic *Anlage* with anything else, since we have reduced all the homogenous modifications to one. Logically, it is true that there can have been only one, but in the living world of nature there are

no such iron-bound categories and absolute distinctions. For instance, if we compare the organs of one and the same individual, we at once observe repetition, *e.g.* that of serial homology, which implies many difficulties, with very different interpretations. Even in such an apparently simple case as the relation between shoulder girdle and pelvis we are at a loss, since the decision depends upon our view as to the origin of the paired limbs, whether both are modified visceral arches, and in this case serially repeated homogenes, or whether they are the derivatives from one lateral fin, which is itself a serial compound, from which, however, the proximal elements, the girdles, are supposed to have arisen independently. What is metamerism? Is it the outcome of a process of successive repetitions so that the units are homogenes, or did the division take place at one time all along the line, or is it due to a combination of the two procedures?

The same vagueness finds its parallel when dealing with the corresponding organs of different animals, since these afford the absolute chance that organs of the same structure and function may not be reducible to one germ, but may be shown to have arisen independently in time as well as with reference to the space they occupy in their owners. As heterogenes they can be compared as to their causes. In the study of the evolution of homogenes the problem is to account for their divergencies, whilst the likeness, the agreements, so to speak, their greatest common measure, is *eo ipso* taken to be due to inheritance. When, on the contrary, dealing with heterogenes we are attracted by their resemblances, which, since they cannot be due to inheritance, must have a common cause outside themselves. Now, since a leading feature of the evolution of homogenes is divergence, whilst that of heterogenes implies convergence from different starting-points, it follows that the more distant are these respective starting-points (either in time or in the material) the better is our chance of extracting the greatest common measure out of the unknown number of causes which combine in the production of even the apparently simplest organ.

These resemblances are a very promising field and the balance of importance will more and more incline towards the investigation of Function, a study which, however, does not mean mere physiology with its present-day aims in the now tacitly accepted sense, but that broad study of life and death which is to yield the answer to the question Why?

Meantime, comparative anatomy will not be shelved; it will always retain the casting-vote as to the degree of affinity among resemblances, but emphatically its whole work is not to be restricted to this occupation. It will increasingly have to reckon with the functions, indeed, never without them. The animal refuses to yield its secrets unless it be considered as a living individual. It is true that Gegenbaur himself was most emphatic in asserting that an organ is the result of its function. Often he held up to scorn the embryographer's method of muddling cause and effect, or he mercilessly showed that in the reconstruction of the evolution of an organ certain features cannot have been phases unless they imply physio-

logical continuity. And yet how moderately is function dealt with in his monumental text-book and how little is there in others, even in text-books of Zoology!

> Habt alle die Theile in der Hand,
> Fehlt leider nur das geistige Band—Life!

We have become accustomed to the fact that like begets like with small differences, and from the accepted standpoint of evolution versus creation we no longer wonder that descendants slowly change and diverge. But we are rightly impressed when unlike comes to produce like, since this phenomenon seems to indicate a tendency, a set purpose, a *beau idéal*, which line of thought or rather imperfect way of expression leads dangerously near to the crassest teleology.

But, teleology apart, we can postulate a perfect agreement in function and structure between creatures which have no community of descent. The notion that such agreement *must* be due to blood-relationship involved, among other difficulties, the dangerous conclusion that the hypothetical ancestor of a given genuine group possessed in potentiality the *Anlagen* of all the characters exhibited by one or other of the component members of the said group.

The same line of thought explained the majority of human abnormalities as atavistic, a procedure which would turn the revered ancestor of our species into a perfect museum of antiquities, stocked with tools for every possible emergency.

The more elaborate certain resemblances are the more they seem to bear the hall-mark of near affinity of their owners. When occurring in far-related groups they are taken at least as indications of the homology of the organs. There is, for instance, a remarkable resemblance between the *bulla* of the whale's ear and that of the *Pythonomorph Plioplatycarpus*. If you homologise the mammalian tympanic with the quadrate the resemblance loses much of its perplexity, and certain Chelonians make it easier to understand how the modification may have been brought about. But, although we can arrange the Chelonian, Pythonomorph, and Cetacean conditions in a progressive line, this need not represent the pedigree of this *bulla*. Nor is it necessarily referable to the same *Anlage*. Lastly, if, as many anatomists believe, the reptilian quadrate appears in the mammals as the *incus*, then all homology and homogeny of these *bullæ* is excluded. In either case we stand before the problem of the formation of a *bulla* as such. The significant point is this, that although we dismiss the *bulla* of whale and reptile as obvious homoplasy, such resemblances, if they occur in two orders of reptiles, we take as indicative of relationship until positive evidence to the contrary is produced. That this is an unsound method is brought home to us by an ever-increasing number of cases which tend to throw suspicion on many of our reconstructions. Not a few zoologists look upon such cases as a nuisance and the underlying principle as a bugbear. So far from that being the case, such study promises much beyond the pruning of our standard trees—by relieving them of what reveal themselves as grafts instead of genuine growth—

namely, the revelation of one or other of the many agencies in their growth and structure.

Since there are all sorts and conditions of resemblances we require technical terms. Of these there is abundance, and it is with reluctance that I propose adding to them. I do so because unfortunately some terms are undefined, perhaps not definable; others have not 'caught on,' or they suffer from that mischievous law of priority in nomenclature.

The terms concerning morphological homologies date from Owen; Gegenbaur and Haeckel re-arranged them slightly. Lankester, in 1870, introduced the terms homogenous, meaning alike born, and homoplastic or alike moulded. Mivart rightly found fault with the detailed definition and the subdivisions of Homoplasy, and very logically invented dozens of new terms, few of which, if any, have survived. It is not necessary to survey the ensuing literature. For expressing the same phenomenon we have now the choice between Homoplasy, Homomorphy, Isomorphy, Heterophyletic Convergence, Parallelism, &c. After various papers by Osborn, who has gone very fully into these questions, and Willey's 'Parallelism,' Abel, in his fascinating 'Grundzüge der Palæobiologie,' has striven to show by numerous examples that the resemblances or 'adaptive formations' are cases of parallelism if they depend upon the same function of homologous organs, and convergences if brought about by the same function of non-homologous organs.

I suggest an elastic terminology for the various resemblances indicative of the degree of homology of the respective organs, the degree of affinity of their owners, and lastly the degree of the structural likeness attained,

Homogeny.—The structural feature is invented once and is transmitted, without a break, to the descendants, in which it remains unaltered, or it changes by mutation or by divergence, neither of which changes can bring the ultimate results nearer to each other. Nor can their owners become more like each other, since the respective character made its first appearance either in one individual, or, more probably, in many of one and the same homogenous community.

Homoplasy.—The feature or character is invented more than once, and independently. This phenomenon excludes absolute identity; it implies some unlikeness due to some difference in the material, and there is further the chance of the two or more inventions, and therefore also of their owners, becoming more like each other than they were before.

(To be continued.)